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**PROBING STRUCTURE-PROPERTY RELATIONSHIPS IN PERPENDICULARLY MAGNETIZED
Fe/Cu(001) USING MXLD AND XPD**

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Magnetic X-Ray Linear Dichroism (MXLD) in Photoelectron Spectroscopy and X-Ray Photoelectron Diffraction (XPD) of the Fe3p core level have been used to probe the magnetic structure-property relationships of perpendicularly magnetized Fe/Cu(001), in an element-specific fashion. A strong MXLD effect was observed in the high resolution photoelectron spectroscopy of the Fe3p at "normal" emission and was used to follow the loss of perpendicular ferromagnetic ordering as the temperature was raised toward room temperature. In parallel with this, "Forward Focusing" in XPD was used as a direct measure of geometric structure in the overlayer. These results and the implications of their correlation will be discussed. Additionally, an investigation of the effect of Mn doping of the Fe/Cu(001) will be described. These measurements were performed at the Spectromicroscopy Facility (Beamline 7) of the Advanced Light Source.

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